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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,968	06/19/2005	Michel Marcel Jose Deere	NL021360US	8314
24737 7590 02/03/2009 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
LAMB, BRENDA A				
ART UNIT		PAPER NUMBER		
1792				
MAIL DATE		DELIVERY MODE		
02/03/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/539,968

Applicant(s)

DECRE ET AL.

Examiner

Brenda A. Lamb

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 and 12-16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for system for manipulation of transporting electronic components in fabrication of semiconductor devices having a dimension within the range of 20-500 μm , does not reasonably provide enablement for a small object which broadly reads on a diverse variety of objects being coupled to the carrier or substrate via a fluid droplet on which its surface is attached since the surface tension of the fluid droplet such as water is not sufficient to support the weight of a small object such as a metal nugget because the surface tension of the water droplet is such that it cannot maintain the metal nugget on its surface. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The term "small" as applied to the type of object being manipulated in the system is so broad that it reads a diverse variety of objects such as a metal nugget which is larger and heavier than the fluid droplet and the specification does not enable how the surface tension of a fluid droplet or water droplet is sufficient to support such a nugget such that it is maintained on the surface of the droplet.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 and 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how the fluid droplet set forth at line 5 of claim 1 relates to "a carrying fluid droplet" set forth in claim 2 and "target fluid droplet" set forth in claims 3 and 4. Claim 1 is confusing since it is unclear how the "one or several electrodes" set forth in claim 6 relates to the "at least electrode" set forth in claim 1. The term "the carrier electrode" at line 5-6 of claim 13 lacks proper antecedent basis. Claim 16 is confusing since it is unclear what "the fluid droplets" at line 3 relates to the "fluid droplets carrying one of the plurality of small objects" and to "fluid droplets that are not carrying one of the plurality of small objects" set forth in claim 15.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shenderov 6,773,566 in view of Shenderov 6,526,727.

Shenderov '566 teaches the design of a system for manipulation of a small object which broadly would encompass the reactive material at reactive site 35. Shenderov teaches a substrate or top plate 26 on its lower surface receives a small object 35. Shenderov '566 teaches a carrier which transports or moves the small object by using droplet manipulation electrodes 22a. Shenderov '566 teaches that the fluid droplet couples/binds constituents of the small object to the carrier as the droplet moves downwardly from the upper chamber 27 to the lower chamber 23 (see column 7 lines 41-58). Shenderov '566 fails to teach the carrier and/or substrate is provided with at least electrode having a shape selected to influence an orientation of the small object with respect to at least one of the carrier and substrate. However, Shenderov '727 teaches that his electrowetting system in which an electrode potential is applied to a configuration of electrodes to convert and define hydrophilic regions that move and

reposition such droplets within the system so as to form a liquid configuration similar to that of the electrodes configuration and such electrodes configurations are known to vary as shown in Figures 6-8. Therefore, it would have been obvious to modify the Shenderov '566 system by providing the substrate electrode with a shape/configuration so as to influence the shape of the droplet along with the same object thereon since Shenderov '727 teaches in his electrowetting system providing his electrodes with a particular configuration and applying an electropotential to these electrodes influence the shape of the droplet along with the same object to enable one to mix droplets if desired (see column 7 line 49 to column 8 line 15 and see Examples 6-7). Thus claims 1 and 7 are obvious over the above cited references. With respect to claims 2-3, absent a clear how the fluid droplet relates to the target fluid droplet or the carrying fluid droplet, Shenderov '566 teaches that the droplet can be disposed on the carrier or on the substrate dependent on activation of the electrodes within the system. With respect to claim 4, Shenderov '566 teaches that the fluid droplet is arranged on the substrate in particular positions dependent on activation of the electrodes (see column 7 lines 43-58). With respect to claims 6 and 12, Shenderov '566 teaches the carrier and substrate are each provided with an electrode. Shenderov '566 shows that the carrier and substrate are provided with a fluid droplet. With respect to claim 13, Shenderov '566 teaches that the system is configured to transfer the small object between the carrier and the substrate by activating the substrate electrode when the small object contacts the fluid droplet on the substrate. Shenderov '566 teaches transferring the droplet from the carrier to the substrate occurs by applying opposite charges to the substrate upper electrode

and carrier lower electrode and to reverse the charge of the carrier lower electrode one would need to deactivate the carrier electrode.

Claims 5 and 14-16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda A. Lamb whose telephone number is (571) 272-1231. The examiner can normally be reached on Monday-Tuesday and Thursday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton, can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Brenda A Lamb
Primary Examiner
Art Unit 1792

/Brenda A Lamb/

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